

REMARKS

Summary of the Office Action

Claims 1, 3-5, 9, 20, 23, 24, 29, 45-49, and 53 are pending in the above-identified patent application.

The Examiner rejected claims 1, 3-5, 9, 20, 23, 24, 29, 45-49, and 53 under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious from Bessler et al. United States Patent No. 5,855,601 (hereinafter "Bessler").

The Examiner also rejected claims 20, 23, 24, and 29 under 35 U.S.C. § 102(e) as being anticipated by Frantzen et al. United States Patent No. 5,843,164 (hereinafter "Frantzen").

Claims 20, 23, 24, and 29 were also rejected under 35 U.S.C. § 102(b) as being anticipated by Lazarus United States Patent No. 6,416,535 (hereinafter "Lazarus").

Additionally, claims 1, 3-5, 9, 20, 23, 24, 29, 45-49, and 53 were rejected under 35 U.S.C. § 102(e) as being anticipated by Griffin et al. United States Patent No. 6,241,765 (hereinafter "Griffin").

Summary of the Reply

Applicants have cancelled claims 20, 23, 24, and 29 without prejudice. The Examiner's rejections are respectfully traversed.

Applicants' Reply to the Rejections  
Under 35 U.S.C. § 102 and 35 U.S.C. § 103

Bessler

Claims 1, 3-5, 9, 20, 23, 24, 29, 45-49, and 53 were rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious from Bessler. These rejections are respectfully traversed.

Applicants have cancelled claims 20, 23, 24, and 29 without prejudice.

Applicants' claimed invention relates to heart valves comprising a valve portion, a connector band, and a plurality of barbed fingers oriented substantially parallel to the direction of blood flow and adapted to secure the valve to a tissue annulus.

Bessler shows an artificial heart valve comprising a flexible valve, a stent member surrounding the valve, and a plurality of "barbs" arranged on the outside surface of the stent member.

Bessler does not teach barbed fingers as set forth in applicants' invention. The "barbs" shown by Bessler are

different than the barbs in the well-known sense, which is defined by Merriam-Webster's Collegiate Dictionary<sup>1</sup> as a "sharp projection extending backward (as from the point of an arrow or fishhook) and preventing easy extraction; or a sharp projection with its point similarly oblique to something else." Element 64, as illustrated in FIG. 7 of Bessler and portrayed in the specification (e.g., see Bessler, column 4, lines 12-14), refers to a pointed extrusion extending outwardly from Bessler's valve apparatus. Nowhere in Bessler is it shown or suggested that element 64 includes (i) a sharp projection extending backward from the body of element 64 and preventing easy extraction; (ii) a sharp projection with its point similarly oblique to something else; or (iii) anything else that might be construed as a barb by one skilled in art.

The Examiner asserts that because Bessler refers to element 64 as a "barb", it would have been obvious to one skilled in the art to replace element 64 with a barb as defined above for better anchoring. Although the word "barb" is used by Bessler, applicants assert that it would not have been obvious to one skilled in the art to simply replace element 64 with a barb because the drawings indicate that the "barbs" are in fact pointed extrusions extending from the

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<sup>1</sup> MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 91 (10th ed. 2001).

valve apparatus rather than a barb in the well-known sense. "A prior art reference must be considered in its entirety, i.e. as a whole..." (MPEP 2141.02). Thus, the words of Bessler must be considered alongside the corresponding figures.

Furthermore, Bessler teaches away from using a barb in the well-known sense because the arrangement of elements 64 is an alternative, albeit not as efficacious, to using barbs. Elements 64 are arranged on the stent member in two circular configurations, with elements 64 in one circle extending in an upstream direction and elements 64 in the other circle extending in a downstream direction. This arrangement attempts to secure the valve in place by attempting to prevent any movement of the valve either upstream or downstream. Upstream or downstream movement will be opposed by the circle of elements 64 extending in the opposite direction pressing into the vessel wall. On the other hand, in a barbed finger, the fishhook or arrowhead structure of the barb prevents the extraction of the barb, thereby fixing the barb and the valve to which it is attached to the vessel wall. Though the configuration of elements 64 attempts to secure the valve apparatus in the same manner as the barbs according to the invention, nevertheless, the

structures are substantially different. Bessler teaches away from a structure according to the invention because it purports to solve the same problem in a different way.

For at least the reasons stated above, applicants' invention is not anticipated by, or made obvious from Bessler. Therefore, claims 1, 3-5, 45-49, and 53 are in condition for allowance.

Frantzen

The Examiner rejected claims 20, 23, 24, and 29 under 35 U.S.C. § 102(e) as being anticipated by Frantzen. Applicants' have cancelled claims 20, 23, 24, and 29 without prejudice. Therefore this rejection is moot.

Lazarus

The Examiner rejected claims 20, 23, 24, and 29 under 35 U.S.C. § 102(b) as being anticipated by Lazarus. Applicants have cancelled claims 20, 23, 24, and 29 without prejudice. Therefore this rejection is moot.

Griffin

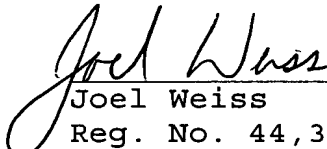
The Examiner rejected claims 1, 3-5, 9, 20, 23, 24, 29, 45-49, and 53 under 35 U.S.C. § 102(e) as being anticipated by Griffin. This application claims priority from Provisional Patent Application No. 60/130,758, filed

April 23, 1999. Griffin was filed July 15, 1999. The priority date of this application precedes the filing date of Griffin, therefore Griffin cannot be considered a reference under 35 U.S.C. § 102(e) and the rejections based on Griffin should be withdrawn.

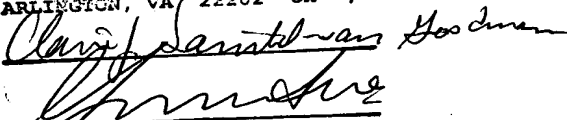
### Conclusion

For at least the reasons stated above, claims 1, 3-5, 9, 45-49, and 53 are allowable. This application is therefore in condition for allowance. Reconsideration and allowance are respectfully requested.

Respectfully submitted,

  
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